



WT34-B420

W34

COMPACT PHOTOELECTRIC SENSORS

SICK
 Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|-----------|----------|
| WT34-B420 | 1019230 |

Other models and accessories → www.sick.com/W34

Detailed technical data

Features

| | |
|--|-----------------------------------|
| Functional principle | Photoelectric proximity sensor |
| Functional principle detail | Background suppression |
| Dimensions (W x H x D) | 27 mm x 92 mm x 70 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 100 mm ... 2,500 mm ¹⁾ |
| Sensing range | 100 mm ... 2,500 mm |
| Type of light | Infrared light |
| Light source | LED ²⁾ |
| Light spot size (distance) | Ø 80 mm (2,500 mm) |
| Adjustment | Potentiometer |

¹⁾ Object with 90% remission (based on standard white, DIN 5033).

²⁾ Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

| | |
|----------------------------|-----------------------------------|
| Supply voltage | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | < 5 V _{pp} ²⁾ |
| Current consumption | 50 mA |
| Switching output | NPN PNP |
| Switching mode | Light switching |

¹⁾ Limit values.

²⁾ May not exceed or fall below U_V tolerances.

³⁾ Signal transit time with resistive load.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ A = V_S connections reverse-polarity protected.

⁶⁾ C = interference suppression.

⁷⁾ D = outputs overcurrent and short-circuit protected.

⁸⁾ Reference voltage: 50 V DC.

| | |
|---|---|
| | Dark switching |
| Switching mode selector | Selectable via PNP/NPN selector, selectable via light/dark selector |
| Output current I_{\max} | $\leq 100 \text{ mA}$ |
| Response time | $\leq 500 \mu\text{s}$ ³⁾ |
| Switching frequency | 1,000 Hz ⁴⁾ |
| Time functions | On delay Off delay Adjustable |
| Delay time | Adjustable via time delay selector switch, 0.5 s ... 10 s |
| Connection type | Male connector M12, 4-pin |
| Circuit protection | A ⁵⁾ C ⁶⁾ D ⁷⁾ |
| Protection class | II ⁸⁾ |
| Weight | 140 g |
| Housing material | Plastic, ABS |
| Enclosure rating | IP67 |
| Test input sender off | TE to 0 V |
| Ambient operating temperature | -40 °C ... +60 °C |
| Ambient temperature, storage | -40 °C ... +75 °C |
| UL File No. | NRKH.E181493 & NRKH7.E181493 |

1) Limit values.

2) May not exceed or fall below U_V tolerances.

3) Signal transit time with resistive load.

4) With light/dark ratio 1:1.

5) A = V_S connections reverse-polarity protected.

6) C = interference suppression.

7) D = outputs overcurrent and short-circuit protected.

8) Reference voltage: 50 V DC.

Safety-related parameters

| | |
|-------------------------------------|-----------|
| MTTF_D | 564 years |
| DC_{avg} | 0 % |
| T_M (mission time) | 20 years |

Classifications

| | |
|---------------------|----------|
| eCl@ss 5.0 | 27270904 |
| eCl@ss 5.1.4 | 27270904 |
| eCl@ss 6.0 | 27270904 |
| eCl@ss 6.2 | 27270904 |
| eCl@ss 7.0 | 27270904 |
| eCl@ss 8.0 | 27270904 |
| eCl@ss 8.1 | 27270904 |
| eCl@ss 9.0 | 27270904 |
| eCl@ss 10.0 | 27270904 |

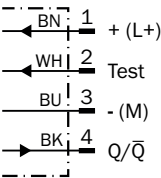
| | |
|----------------|----------|
| eCI@ss 11.0 | 27270904 |
| eCI@ss 12.0 | 27270903 |
| ETIM 5.0 | EC002719 |
| ETIM 6.0 | EC002719 |
| ETIM 7.0 | EC002719 |
| ETIM 8.0 | EC002719 |
| UNSPSC 16.0901 | 39121528 |

Connection type

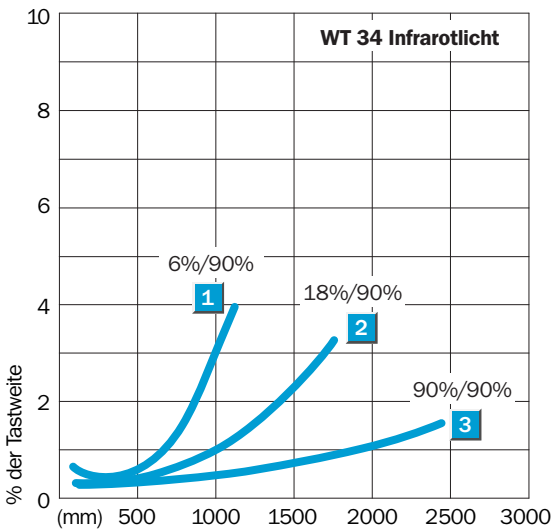


Connection diagram

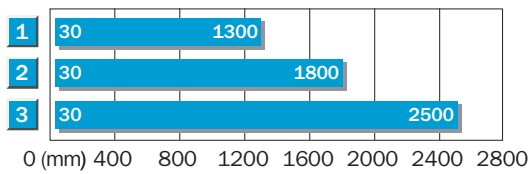
Cd-117



Characteristic curve

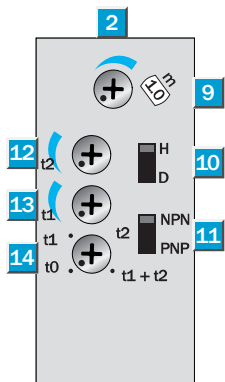


Sensing range diagram



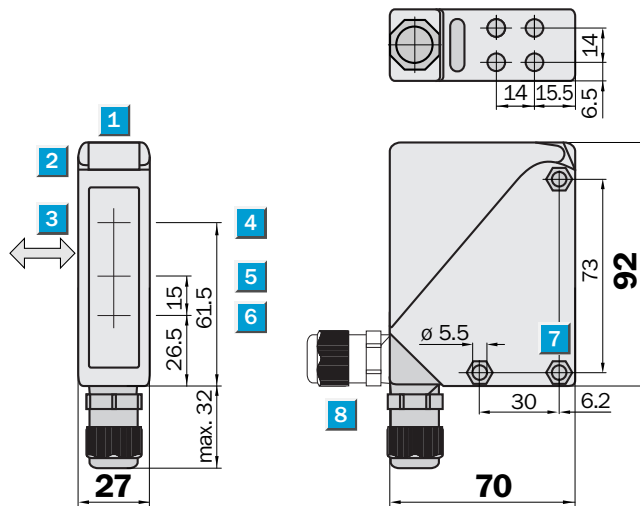
| | |
|---|--|
| 1 | Scanning distance on black ⁹⁾ |
| 2 | Scanning distance on grey ⁹⁾ |
| 3 | Scanning distance on white ⁹⁾ |

Adjustments



- ② LED signal strength indicator
- ⑨ Adjustment of sensing range
- ⑩ Light/dark selector
- ⑪ NPN/PNP changeover switch
- ⑫ Time control t_2 = OFF delay
- ⑬ Time control t_1 = ON delay
- ⑭ Time delay selector switch




Dimensional drawing (Dimensions in mm (inch))



- ① Alignment sight
- ② LED signal strength indicator
- ③ Standard direction of the material being detected
- ④ Center of optical axis, sender
- ⑤ Center of optical axis, receiver (close range)
- ⑥ Center of optical axis, receiver (far range)
- ⑦ Mounting hole \varnothing 5.5 mm, for M5 hexagon nuts on both sides

Recommended accessories

Other models and accessories → www.sick.com/W34

| | Brief description | Type | Part no. |
|---|---|--------------------|----------|
| Mounting brackets and plates | | | |
|  | Mounting bracket, Stainless steel (1.4301), mounting hardware included | BEF-WN-W24 | 2015248 |
| Plug connectors and cables | | | |
|  | Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF2A14-050VB3XLEAX | 2096235 |
|  | Head A: male connector, M12, 4-pin, straight Cable: unshielded | STE-1204-G | 6009932 |

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com